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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/501,492

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EXAMINER

KOCH, GEORGE R

ART UNIT

PAPER NUMBER

1734

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,492	<b>Applicant(s)</b> KOPP, LORENZ	
	<b>Examiner</b> George R. Koch III	<b>Art Unit</b> 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.  
 4a) Of the above claim(s) 13-22 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-12 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see remarks, filed 10/27/06, with respect to the rejection(s) of claim(s) 1-12 under Schneider and Haas have been fully considered and are persuasive, especially in light of the . Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Schneider and Haas, and Ketelhohn which discloses the adjusting structures claimed. An additional rejection based solely on Ketelhohn is also advanced.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ketelhohn (US 5,002,616).

Ketelhohn discloses a conveyorized horizontal processing line (Figure 1) for wet-processing (via material 33) a workpiece (item 21) having the following facilities: (a) at least one respective transport member (rollers 22, and 23; which are mounted on drive rods 24 and 25, respectively) for the workpiece (item 21) located above and beneath a conveying path (arrow 18) which extends in a horizontal direction of transport (arrow 18)

and in which the workpiece (item 21) may be conveyed through the conveyorized processing line; (b) at least one processing facility (nozzles 35 and 36, see column 3, lines 26-59) for the workpiece (item 21) which is disposed above (nozzle 35 is an upper nozzle, and is disposed above the path) the conveying path (arrow 18) and forms, together with the at least one transport member (rollers 22), one structural component above the conveying path; (c) at least one adjusting device (described in column 4, lines 6-25) for the structural component, the at least one adjusting device (column 4, lines 6-25 describe this device as being flexible portions, or deep teeth in the gears - i.e., slots) being configured in such a manner that the structural component may be raised or lowered in a substantially vertical direction and/or may be pivoted (the mechanisms of lines 6-25 cited above allow for both raising/lowering as well as pivoting).

As to claim 2, the structures suggested in column 4, lines 6-25 of Ketelhohn are means of which the spacing of the structural component from the workpiece (2) conveyed past said structural component may always be maintained substantially even.

As to claim 9, Ketelhohn discloses nozzles for spraying the workpieces (see columns 3, 4, and 5).

As to claim 10, the transport members of Ketelhohn have an elongated shape and extends in a horizontal direction, substantially transverse to the direction of transport (see Figures 1 and 2).

As to claim 11, Ketelhohn discloses that the at least one transport member (item 22) disposed above the conveying path is guided in lateral long hole bearings (slots 38) disposed outside of the conveying path (see Figures 3 and 4).

As to claim 12, Ketelhohn discloses that the at least one transport member is selected from the group comprising transport rollers and of transport rolls mounted on an axis (see Figures).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-12 are additionally rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (DE 197 17 511 A1, submitted with the IDS filed 12/21/20045) in view of Haas (DE 38 42 835 A1) and Ketelhohn (US 5,002,616).<sup>1</sup>

Schneider discloses a conveyorized horizontal processing line for wet processing a workpiece comprising at least one respective transport member (rollers visible in the Figures), extending in a horizontal direction of transport, at least one processing facility

(bath 1), which forms one structural component (Transport und Fuhrungselemente - items 2) above the conveying path.

Schneider does not disclose at least one adjusting device to raise and lower a structural component.

However, Haas discloses at least one adjusting device (the raising device recited in the abstract) to raise and lower a structural the wheels, which provides adjustment of the nip of the rollers. Huang discloses that these elements take into account the "thickness of the object to be treated". (Abstract). However, Huang does not suggest adding "play" for both the rollers and the processing facility. However, Ketelhohn discloses a very similar apparatus as Schneider and Haas which has a structural component made up of the rollers and the processing device (nozzles 35 and 36 - see the full details in the 102b rejection above). Ketelhohn suggests providing means in order to move the structural component, in order to allow for the use or coating of thicker substrates (column 4, lines 6-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such adjusting devices in order to take into account the thickness of the objects to be treated.

As to claim 2, Schneider as modified by Haas and Ketelhohn is capable of maintaining the spacing substantially even.

As to claim 3, Schneider discloses a thickness sensor (Dickensensor or thickness sensor 8).

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<sup>1</sup> Translations of Schneider and Haas are included with this action.

As to claim 4, Schneider discloses one sensor at the entrance region (items 6 - i.e., Einweglichtschranke, translates to "One-way light barrier")

As to claim 5, Schneider discloses a memory (Anlagensteuerung or control 12).

As to claim 6, the sensors and control of Schneider in combination with Haas are capable of being used to control the height of the structural component (thickness sensor 8, light barrier sensor 6, and away sensor 9, plus control 12).

As to claim 7, Haas discloses a slots as claimed for the adjusting device (see Figure 1 - the gap between elements 2 are the slots). Haas also discloses a hydraulic/pneumatic adjusting device (Figure 2, item 22) and eccentrically driven shaft - items 20/24).

As to claim 8 and 9, Schneider discloses a pump (Pumpe 16) and nozzles (Dusenspeiseleitung 19) as claimed.

As to claim 10, the transport rollers of Schneider and Haas work on the same substrate and have the same shape as the transport rollers in the Figures, and thus have an elongated shape.

As to claim 11, Haas as incorporated discloses slots (see Figure 1 - the gap between elements 2 are the slots). Ketelhohn also suggests slot structures (item 38, as well as the deeper teeth cited in column 4, lines 6-25).

As to claim 12, Schneider discloses lateral transport rollers and transport rolls mounted on an axis (items 2).

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7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider, Haas and Ketelhohn as applied to claims 1 above, and further in view of applicant's admitted prior art (pages 1-4).

Schneider does not disclose flow nozzles, anodes or cathodes.

However, the admitted prior art, in the discussion of DE 32 36 545 A1 on page 2, discloses that anodes are known for processing. The admitted prior art also discloses that the opposite (using cathodes) can occur (see page 1, line 29 to page 2, line 2). The admitted prior art also discloses processing facilities such as flow nozzles, penstocks and heating devices (page 1, lines 22-23). The admitted prior art suggests that these facilities are interchangeable. One in the art would appreciate that such operations improve the quality of the circuit board. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such processing facilities in order to improve the quality of the circuit board.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can also be reached by E-mail at [george.koch@uspto.gov](mailto:george.koch@uspto.gov) <<mailto:george.koch@uspto.gov>> in accordance with MPEP 502.03. The examiner can normally be reached on M-F 9-5.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George R. Koch III  
Primary Examiner  
Art Unit 1734

GRK  
1/20/2007